

See photo page 2
page 15

PAN AMERICAN fisherman

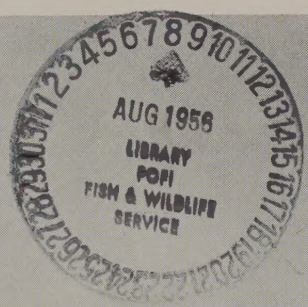
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JULY 1956



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NATIONAL TUNA WEEK, SEPTEMBER 13-22, 1956



Will this blot spread... or shrink?



NOTHING STRIKES so brutally at human lives as a slum.

Yet of America's many millions of homes, the blot that is a slum covers more than 1 out of every 10... and nearly one-half of all our homes are urgently in need of repair and basic improvements.

Will the blot go on spreading? Or will a concerted, nationwide attack on the causes of slums shrink it, year by year, until it is wiped out? Today, this is a challenge to every American... a challenge that *must* be met.

Your community... your problem!

A slum reaches across blocks, across miles, to sit on your doorstep and demand a price.

You pay it in the threat of crime and juvenile delinquency to your family. You pay the price in higher personal property taxes to fight the disease and crime and poverty that are slum-bred. You pay personally when the value of your home sinks as community deterioration takes another step closer.

Your *firm* pays when the community where you do business goes downhill. Slums automatically mean lower purchasing power and less effective labor.

Good citizenship is good business

It's good citizenship and good business both for your firm to join efforts to check housing decay... to stop slums before they start. In fact, it's the *responsibility* of every business, as it is of every other good citizen, to support community improvement efforts.

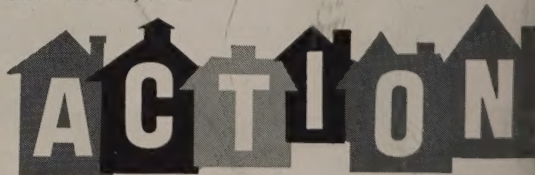
Some slums are beyond repair. They should be torn down and a fresh start made. Others can be remodeled, made to conform to better living standards. So it is up to you to get behind every sound program which seeks to provide adequate housing for all our people.

Adding your support to the efforts of the millions already attacking the problem, your firm can help stop slums cold and put America's housing standards at a new height.

How to get into action

A group of Americans from every walk of life has formed a new, non-profit organization to help combat home and community deterioration — The American Council To Improve Our Neighborhoods... A.C.T.I.O.N.

Send for a free copy of "ACTION." It explains what A.C.T.I.O.N. is and proposes to do. It also lists booklets, research reports, check-lists, and other material which can help you protect the housing health of your community. Address P. O. Box 500, Radio City Station, New York 20, N. Y.



American Council To Improve Our Neighborhoods

Insuring the Present ... and the Future



As in the Past . . . So in the Future

All Activities of the American Tunaboat Association

Are Directed to the Improvement and Prosperity

of the Tuna Industry

Joseph E. Penacho
President

Harold F. Cary
General Manager

AMERICAN TUNABOAT ASSOCIATION

NO. 1 TUNA LANE

•

SAN DIEGO, CALIFORNIA

PAN AMERICAN
Fisherman

Published Monthly

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About This Issue . . .

GREAT plans are being made for National Tuna Week, to be held this year from September 13 to 22 inclusive. Nation-wide advertising and promotions are being planned that should boost the sale of tuna everywhere. Details on page 7 this issue.

*

The above mentioned plans are expected to keep the canneries busy, and of course that should eventually mean better prices and a more stable market for the fishermen and boat owners. If so, everybody will be happy . . . including us.

*

Along with Senator Thomas Kuchel, Representatives Jimmy Utt and Bob Wilson of California have done a good job in

representing the commercial fishing interests in all of the pulling and hauling that has been going on in the Congress. As the legislators are now getting ready to leave Washington, latest word from Rep. Utt is that some sort of fishery legislation is expected to be worked out and passed before adjournment.

*

The Magnuson bill has been pretty well combined with the Bonner bill in regard to the reorganization of the Fish and Wildlife Service . . . and this compromise bill is now in the final stages of being worked out for passage as we go to press. See "Report from Washington," page 5.

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Report from *Washington*

Items Gleaned from the Nation's Capital

FISHERIES REORGANIZATION DELAYED.--Secretary of the Interior Seaton announced on July 3 that, because Congress is considering legislation affecting the Fish and Wildlife Service, administrative reorganization of that Service, scheduled to go into effect July 1, had been temporarily deferred, with the President's approval.

According to the press release, the Department has been working out details of the reorganization plan since June 4, when a White House directive spelled out the objectives of the Administration's proposal to provide new forms of assistance to the commercial fishing industry and to bolster other services performed by the FAWS.

Secretary Seaton said the Department had decided to postpone completion of the reorganization until Congress has had an opportunity to act on pending legislation designed to accomplish essentially the same things as the administration's program.

The Secretary said the Bonner Bill, H.R. 11570, is generally in accord with the President's program, although the Senate may want to resolve some differences between the Bonner bill and the Magnuson bill.

"In view of the fact that the Congress is now considering legislation that would, among other things, provide for the reorganization of the Fish and Wildlife Service to include a bureau for wildlife and sport fishing and a bureau of commercial fisheries, it would seem best at this time for the Department to delay effectuating its own reorganization plan beyond the originally contemplated July 1, target date," Seaton said.

"This is a complex problem and it is the President's desire that the Department of the Interior and other interested Federal agencies cooperate to the utmost with the Congress in working out the best possible solution to the problem," he added.

--O--

THE BONNER BILL.--Of all the many bills presented to the Congress on fisheries during recent months, the Bonner bill now seems to have the best chance for passage. Main stumbling block has been the objection of sport fishermen to certain provisions--and this helped kill the bills presented by Senator Magnuson and others--but it is believed these matters have now been satisfactorily ironed out.

It is understood, as we go to press, that the bill may come up for action almost any day now. The sportsmen's groups which were vigorously opposing the legislation before a compromise was worked out, are now telling members of Congress that it has their all-out support.

Delay in consideration of the bill may turn out to be helpful since it will give the sportsmen an opportunity to make known to Congress

their changed position. It is understood that Secretary Seaton has indicated to sports leaders that should the legislation fail, the Department of the Interior will proceed with their own reorganization plans as previously announced by the White House and the Interior Department. Leaders of the House Committee on Merchant Marine and Fisheries feel certain that the House will pass the bill when it comes up for consideration.

In addition to providing for reorganization of the Fish and Wildlife Service, H.R. 11570 calls for establishment within the Department of the Interior of an Assistant Secretary to have supervision of fisheries and wildlife and a Commissioner of Fish and Wildlife. Other significant features of the bill are a revolving loan fund and a continuation of the Saltonstall-Kennedy program which would eliminate the present \$3,000,000 limitation on funds for fisheries research and other projects. The act is due to expire next year.

The administration's proposed legislation, submitted to Congress on June 7, provided for a \$10,000,000 revolving loan fund for the maintenance and repair of commercial fishing vessels and for liberalization of the Saltonstall-Kennedy Act.

--O--

TRENDS IN U.S. IMPORTS AND EXPORTS.--According to data collected by the Bureau of the Census, U.S. imports of frozen tuna during April and the first four months of 1956 were less than the same periods a year ago but canned tuna imports were larger. Frozen albacore imports during the January-April period were 27% below those of the year earlier while imports of other frozen tuna showed a gain of 15%.

Imports of canned albacore were 16% greater than other canned tuna 5% over imports during the comparable four-month period a year ago. For the four-month period of 1956, 45.1 million pounds of frozen tuna had been imported compared with more than 50 million pounds in the similar period of 1955. Almost 10.7 million pounds of canned tuna were received compared with 9.8 million pounds a year earlier.

Imports of shrimp in the first four months were considerably larger than in the previous year. These imports totaled 22.8 million pounds compared with 12.7 million pounds for the four months of 1955, an increase of 80%.

United States imports of canned salmon totaled 2.3 million pounds in April, bringing the total for the four months of 1956 to 9.7 million pounds. This compared with slightly over 1 million pounds imported during the similar period of 1955.

United States exports of canned salmon during the January-April period totaled only .5 million pounds compared with 3.9 million exported in the same period of 1955. Exports of canned sardines totaling 19.4 million pounds, were 18% greater.

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RESEARCH ON PACIFIC TUNA PROBLEMS.--Three research contracts for project to study problems in the tuna, shrimp, and sponge industries have recently been awarded by the Fish and Wildlife Service, under the Saltonstall-Kennedy program.

(Continued on page



WORLD MARINE RESOURCES

By D. B. FINN

National Tuna Week

SEPTEMBER 13-22, 1956

BACKED by the largest consumer advertising schedule in its history, every homemaker in America will be alerted to National Tuna Week, September 13 through 22.

The Tuna Research Foundation, sponsors of the promotion, has placed a four-color page ad plus one column in black and white in Look Magazine's September 18 issue, on the 18th and September 4. Look will serve an all-out merchandising program including sales letters announcing National Tuna Week and pointing its importance to food retailers, together with mailings to 2,500 leading chain operators servicing between 40,000 and 100,000 top markets in the country.

A host of related manufacturers have joined in the overall promotion. For example, Minute Rice will feature "Tuna Rice Pronto" with a four-color full-page ad in the September issues of Ladies' Home Journal, Better Homes and Gardens, Good Housekeeping, and Sunset. Minute Rice will also use its television facilities for the event and provide in-store spectacular displays, in addition to merchandising by its field salesmen.

Carnation Milk will use a tuna recipe on its "Burns and Allen" TV show, and will make tuna and evaporated milk recipes a feature item for its field men.

Kraft Foods will feature a tuna sandwich recipe on Kraft Television Theatre, as well as tuna and mayonnaise, over Mutual radio newscasts, and field salesmen will build tie-in displays at the retail level.

Other network television commercials will include the "United States Steel Hour," the Reynolds Metals "Frontier" show, "Our Miss Brooks,"

"Topper," "December Bride," "Queen for a Day," and General Mills' TV outlets.

Macaroni manufacturers will cooperate in local newspaper, radio and TV schedules with macaroni and tuna dishes, and provide in-store display material.

Through the Tuna Research Foundation, major newspapers and national food syndicate columns will be serviced with recipes, news, feature stories and photographs. National magazines and the Sunday supplements have picture and editorial material for September releases. Smaller newspaper dailies and weeklies will receive releases as will the farm, labor and Negro press. Home economists on both TV and radio will carry special material, and network personalities will plug the week on both TV and radio.

Individual member canners of the Foundation will have four-color ads appearing in American Weekly, This Week, Parade, Family Weekly and independent Sunday supplements plus national and regional TV and radio commercials.

The Fish and Wildlife Service will devote its entire field personnel and home economist TV demonstrators to the program.

Dates for National Tuna Week have been moved from the customary first week in November to tie-in with "back-to-school," and special emphasis will be given to school cafeteria menu suggestions, lunch box recipes, salads and sandwiches in addition to stressing new recipes to the homemaker and pointing up the nutritional value and economy of the product. *

IN a suite of offices in a big, white building in Rome, Italy, the headquarters of the Food and Agriculture Organization, (FAO), marine biologists of many nations are engaged on complex work of collecting, sorting and analyzing facts and information about the oceans, seas, rivers and inland waters of the world.

These men are engaged on a task which will take many years to complete—a survey of the living aquatic resources of the world. It is a task which relates to the activities of the Member Governments of the 72 nations of FAO, and of marine biologists, and of fishery scientists studying the world's fisheries, as well as fishermen themselves. Ultimately it is hoped that this resources survey will help improve the welfare of fisheries throughout the world.

"Fisheries are still in a primitive state as compared with, say, farming," said Dr. G. L. Kesteven, Chief of FAO's Biology Branch of Fisheries Division. "Our aim is toward the same efficiency and certainty which now exists in agriculture, even though we can never hope to 'farm' all the oceans and seas. But we need to practice fish husbandry to the fullest extent within the limits possible. We need to manage, control and breed fish as a farmer manages, controls and breeds animals for the benefit of mankind, and harvest them for food or commercial purposes as we do sheep or cattle."

Such fishery problems are complicated by a number of factors. First, no individual or nation has property rights over the oceans and seas or the life in them. Even the extent of ownership of territorial waters is in dispute. Second, about 75% of the earth's surface is covered by water and knowledge of the life and resources of this vast area is limited. Third, the knowledge that does exist of well known and exploited sea fisheries is inadequate for rational management on a national or international scale.

"According to statistical information available, only about 10% of animal protein food consumed by

(Continued on page 14)



Four FISHERY FACTORS

AT THE recent meeting of the American Fisheries Advisory Committee at Long Beach, California, Chairman was Wesley A. D'Ewart, Assistant Secretary of the Interior. The group present included leaders from the Fish & Wildlife Service and from various companies and associations. In addition to matters previously reported in this magazine, these four factors received thorough consideration as follows:

1.—Fluctuations in Fish Resources

Fluctuations in abundance and in habits are common to the open sea fishes like herring, sardines, salmon, and tunas. Predictions of these fluctuations are not impossible, but they will remain unpredicted until all the skills of the meteorologist, the biologist and oceanographer are brought to bear on the forces which affect the fish. What now seem to be capricious changes in fish behavior, or simple overfishing, or mismanagement, but which probably are interlocking processes like weather, currents, foods, predation, temperature, disease, and fishing, will some day be understood. Then there will be practical results. We can predict changes before they happen; project results of changes into several future years; know where to look for fish when disappearances are the result of changed habits; and direct the fishery industry to alternative resources of potentially comparable value and abundance.

Question for the Committee:—How can Saltonstall-Kennedy Act funds be used most effectively to achieve the desired results?

In a general discussion the Committee felt that studies in meteorology, biology, and oceanography should be carried on to avoid a break

in continuity of information. It was considered highly desirable that effort should, however, be concentrated on analyzing and interpreting the data so as to make it usable to the fishing industry. A member of the Committee illustrated this by citing the work done by the Fish and Wildlife Service as a part of the study of Pacific sardines. He indicated that this work served to point up the reasons for the fluctuations in the sardine resources and avoided the destruction of the Pacific Coast sardine industry through restrictive legislation.

2.—Consumption

The per capita consumption of domestic food products competing with edible fishery products is increasing. Since 1947, the consumption of poultry has risen 33%, eggs 14%, and meat 6%. Meanwhile, the per capita consumption of fishery products is barely holding its own, and in some years has lost ground. The United States will have 177,000,000 people in 1960 and 215,000,000 in 1975. The latter population figure represents nearly 30% increase and will require the same percentage increase in domestic fish production just to maintain the annual consumption at present levels of about 10 pounds per capita.

Market studies could determine areas of low consumption of fishery products and the reasons for this low consumption. Promotional campaigns, development of new products, and improvement in quality might aid in raising the per capita consumption figure. Greater emphasis on exploration of new fishery resources and development of more efficient gear might increase production as required. A determination of future

supply and demand for industry guidance and long range investment also would be a necessity.

Question for the Committee:—How should Saltonstall-Kennedy funds be used to the best advantage to maintain or increase per capita consumption?

A lengthy discussion on this subject brought out that:

1. Emphasis should be placed on making available to the general public through cookbooks on fishery products, information on the proper methods of preparation of fishery products for the table.
2. Marketing studies should be continued to determine consumer preferences and similar information.
3. A balance should be maintained between the studies in marketing and those on fluctuations in supply.
4. A greatly increased education program is necessary to make the consumer aware of the importance of nutritional values of fishery products.

3.—Imports

For every 10 pounds of domestic fishery products in our channels there is also the equivalent 6 pounds of foreign caught fishery products. Foreign fishery products supply over 50% of the groundfish fillet market, over 40% of the canned tuna market, and about 25% of the shrimp market. Total recent imports of edible fishery products in the United States have been more than double the average of imports during the pre-war years—1934-1939. A substantial part of these products

produced with the aid of subsidies from foreign governments and under conditions of lower labor costs. Since the trend is toward elimination of tariff and trade barriers, the current competition from foreign fishery products in United States markets is not apt to maintain present levels or to increase.

Our industry may be able to lower costs by locating new and greater sources which are cheaper to exploit and by improving production and marketing techniques. Improving domestic products by giving increased attention to the quality of fish at the time they are caught and through the use of voluntary Federal standards might also be helpful. Extension of the market could be undertaken through promotional campaigns, development of new products and regaining or developing export trade.

Question for the Committee:—How can Saltonstall-Kennedy Act funds be brought to bear most effectively in developing: (1) a prompt means of aiding our fishery industry to meet foreign competition, and, (2) a long-range solution to this problem?

Discussion on this subject brought out these main points:

More information is needed through surveys on the consumption of fresh fish and fillets as a basis for determining how the problems raised by imports might be met.

Some action is necessary when currency manipulations occur between countries, which affect prices of imported fishery products.

There was no clear-cut opinion among the members on the subjects of the imposition of quotas on imports and the rates of tariffs which should apply to competing imported fishery products.

There was likewise no clear-cut opinion on the part of the members regarding direct financial assistance to the fishery industry as an aid in meeting competition from imported fishery products.

Study should be made on the locating of new and greater fishery resources, and on the methods of improving production and marketing techniques as an aid to lowering of costs for domestic producers to assist them in competing with lower costs of imported fishery products.

6. Consideration should be given to the discrepancy between the duty on imports of tuna in brine, as compared with that on tuna in oil.

4.—Full Utilization

Full utilization of our fishery resources poses problems in three major fields.

1. The supply of some kinds of fish does not meet the demand. At the same time, for various reasons, other varieties are not used at all or to a minor degree. A much greater use of these varieties would increase per capita consumption and help meet future demands. It also would remedy situations—either biological or economic—where unused or little utilized varieties create problems by their presence in large volume.

It might be possible to market these varieties profitably if all the facts were known about the basic resource, if the best uses for each variety were determined, and this knowledge were made available to potential markets.

2. The 4.7 billion pound catch taken by U.S. fishermen in 1954 was surpassed only by Japan and China. But this huge volume does not mean that the catch was taken in the most efficient manner. For example, few will contend that the industry takes fish only at the time of their lives—considering growth and mortality rates—when the yield is the greatest. Nor does it deploy its fishing time and equipment so as to insure the most profitable balance among fishing stocks. Great quantities of fish are wasted in the taking of more valuable varieties and the resources are shared probably to a greater degree than necessary, with predators.

Greater yields with less effort would be possible if the principles of fish husbandry were known and practiced. Less waste would occur if selectivity in harvesting the catch were a fine art, and could be controlled.

3. The catch of fish which is used for other than human food plus the waste products from the catch which is processed for human food constitute a very large proportion of our domestic fish supply—about 63% in 1955. When this huge volume is processed into fish meal and fish oil or used for animal food only the lesser values in the raw material are being used, and the resulting products are subject to extensive competition from abundant and oftentimes cheaper agricultural products.

Undoubtedly, the potential values in the raw material are such that the possibilities for more profitable and less competitive marketing are very promising. This goal might be achieved if all the facts in regard to the composition of the raw materials were known, and if this knowledge were used to develop new products and make them available in new markets.

Question for the Committee:—How can Saltonstall-Kennedy Act funds be used most effectively to improve these situations?

The discussion on this point brought out the following facts:

1. It is necessary to conduct basic economic and marketing research to determine the potentials of new markets.
2. Studies should be continued on by-product utilization, especially on the search for new products which can be developed from these materials.
3. Studies should be continued to make the principles of fish husbandry, through the practice of which it would be possible to obtain greater catches with less effort. Less waste would occur if selectivity in harvesting the catch were a fine art and could be controlled.
4. A continuation of the program financed with Saltonstall-Kennedy funds on a permanent basis so as to provide the necessary research and surveys to assist in solving these problems. *

Shipping Lobsters Alive

A leaflet entitled, "Shipping and Maintaining Lobsters Alive," released by the Fish and Wildlife Service, is designed to meet the growing demand for information on maintenance and shipment of live lobsters. It reviews experimental findings on the lobster's requirements for well-being.

The publication contains instructions for packing in the several available containers and for the use of ice without ill-effects on the lobsters. Information on the construction and use of holding pools and tanks is presented. Reports on the maintenance of the life of lobsters in tanks and in transit is included. Leaflet No. 9 is available without charge from the Director of Fish and Wildlife Service, Interior Building, Washington 25, D. C.

Wealth from the Waters

WITH big new orders and glowing reports on sample products flowing in from overseas, Australia appears to be starting something with her infant tuna industry.

In three short years the delicately flavored Australian canned tuna has sent local and overseas demands beyond the reach of the comparatively small production.

In 1948 the tuna industry was nonexistent, although as early as 1937 a cannery was built on the south coast of New South Wales to can tuna and other fish. In 1949 the fishermen of southern New South Wales netted 1,000 tons of tuna. That early catch was handled with imagination and small frozen consignments were sent overseas to canners in many countries, including the United States.

Since then the industry has made progress. Recently a small (42 ft.) clipper, the *Canberra*, fishing 15 miles off Eden, on the south coast of New South Wales, took nine tons of tuna in 45 minutes. Only her size prevented her from taking more.

This new Australian fishing industry has established markets in many parts of the world, but mostly in the United Kingdom. Recently an Australian canning firm, Green's Products Ltd., of Marrickville, New South Wales, received the biggest order ever from overseas for Australian canned fish—an \$180,000 tuna order from the United Kingdom. Buyers preferred Australian tuna, in this instance, to the better-known older-established South American brands.

The beginnings of the young industry were humble. In 1936 a well-known New South Wales fisheries expert, Mr. T. Roughley, was quoted in the Sydney *"Sun"* as saying: "Close investigation of tuna fishing possibilities off the south coast of New South Wales convinces me that they should be exploited commercially without delay. There is no doubt that the possibility of thus developing a new fishing and canning industry are very good indeed. The edibility of the fish is not in question. It tasted like chicken and is ideally suited for canning."

Fast on Mr. Roughley's advice came a small tuna-canning factory at

A young Australian industry is comparatively small but growing toward world recognition

*

By PETER KNOX

Narooma in 1937. But local fishermen showed reluctance to fish for tuna in an area where so many better known fish were available for the taking. They concentrated on salmon.

But in the spring of 1949, there came a sudden dearth of salmon in the region. The cannery upped its price for tuna and the fishermen responded. They landed 1,000 tons in a short time.

With government help, sample consignments of tuna were sent, frozen, to various parts of the world . . . Canada and Hawaii; Europe, Great Britain, Switzerland and Italy.

Australian tuna interests launched an advertising campaign on the home market. Within a few months, tuna was much in demand in Australia. Meanwhile, the overseas demand strengthened, especially from the United Kingdom.

Normally, the tuna season lasts from August to December, but occasionally warm currents keep the season going past December to January and February.

Originally Australian tuna fishermen used barbless hooks, baited with strips of hide, feathers or aluminum. These were trailed along the top of the water through schools of fish. Now, however, fishermen have adopted a special double barbed hook, attached to lines 50 to 100 ft. long, and heightened by pink, blue, yellow and silver aluminum lures. Australian fishermen have not adopted the Japanese long-line (200 to 300 yards) tuna fishing method.

The Australian methods are comparatively cheap. Many American boats are equipped to travel up to 20,000 miles to the tuna fishing grounds, with necessarily large storage capacity and elaborate refrigeration requirements. This is not so in Australia, where the tuna grounds are very close at hand and ships can return to port at night, see their

catches weighed, checked and sorted and paid for before morning, if the fisher so desire.

With the fish so close to the New South Wales south coast, few have bothered to investigate possibilities in other parts of Australian waters. But a check reveals that tuna exists in large quantities in several other regions.

In southern Australian waters, Striped Tuna and Southern Bluefin are found in commercial quantities although Albacore is not plentiful. In the north, Northern Bluefin, said to be even more prolific than southern varieties, have yet to be exploited commercially for it does not take the lure well, although it can be netted. A much quieter type of tuna, makes a delicious canned product with a flavor somewhat richer than that of the Southern Bluefin. However, problems of transportation and preservation have kept the north Australian tuna fishing industry in the doldrums.

Next in flavor comes the Yellowfin, which can be compared to the Californian product. The difficulty to catch enough, its habits being different from the other types.

The striped Tuna is a good canning fish, and satisfactory Australian canning packs have been made comparable with Southern Californian products. These run off the Western Australian coast, but apparently in small groups, and with average weight of six to eight pounds. Mature tuna of about 200 lbs. full spawn, have been netted occasionally but they will not take the lure.

Practically nothing is known of spawning habits of tuna, particularly the Bluefin. There have been no reports of spawning tuna up to 3 lbs. caught near Albany, Western Australia. The Commonwealth Scientific and Industrial Research Organization plans a survey to locate grounds where these tuna may be caught by line.

With these untapped reservoirs close to her coasts, Australian fishing interests feel that the tuna is a potential dollar earner as well as a good new industry for the home market.

RADIO TELEPHONE FREQUENCIES

The Federal Communications Commission, the U.S. Department of State, and the International Telecommunication Union at Geneva, Switzerland, are considering recent international developments concerning the maritime mobile service of radiotelephony.

This might lead to proposed rule making to reallocate some of the frequencies in the band 152-162 Mc in order to achieve international standardization of VHF maritime mobile service frequencies as recommended by the European maritime countries.

Before taking such action the Commission must first determine whether there is a need for additional VHF marine channels. One recommendation is that a part of the maritime mobile traffic handled on frequencies in the bands between 1605 and 1800 kc be transferred "when practicable" to frequencies in the VHF bands.

More than 45,000 ship radio stations of the United States are now

licensed for telephony, and the trend is toward a continuing increase in that number. Approximately 2,000 of the present ship radiotelephone stations are licensed to operate on frequencies in the VHF band, with the remaining 43,000 licensed to operate in the 2-3 Mc band.

The large concentration of stations in the 2-3 Mc band has resulted in severe interference in many areas. Because the propagation characteristics of frequencies in the 2-3 Mc band are such that relatively long distance communications can be conducted on those frequencies, the interference between stations operating in a particular area is aggravated by the addition of signals from stations in other areas. This is particularly true at night when the interference caused by strong skywave signals, which can be received over distances of several hundred miles, is added to the interference created by the congested conditions of a local area.

Because of the destructive interference now existing on frequencies

in the 2-3 Mc band, and in view of the trend toward increased occupancy of this band, the Commission foresees the need for limiting the use of frequencies in the 2-3 Mc band to communications that cannot be conducted on frequencies in the VHF band.

The marine VHF channels in the 152-162 Mc band, because of their so-called line-of-sight transmission characteristics, are suitable for relatively short distance communications only. The range usually obtainable is up to about 20 miles between ships capable of providing antenna heights of about 30 feet above the water, with larger distances obtainable at higher antenna heights.

These ranges are in reference to the use of FM emission, a radiated power of one watt, and a vertical half-wave dipole antenna (approximately 3 feet in length) for both transmission and reception. For ship-shore communication in this band, when the shore station utilizes antenna heights of 100 to 300 feet, longer distances can be covered up to about 75 miles under favorable conditions. From information made

(Continued on page 14)



give us
the
right
steer!

Always keep your ship's registration up to date! When you buy or sell a ship equipped with radiotelephone, notify us so we can change the listing at once.

And here are two other ways to make sure ship-shore telephone calls reach you faster:

- Tune in regularly to the Marine Operator's broadcasts—don't risk missing any calls!
- Set up a listening schedule and tell callers ashore the best hours to reach you.



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Making Fishing BOATS SAFER

THE safety of fishing boats at sea, and their efficiency, could be increased if more of them were designed and constructed to the plans of naval architects, according to Jan-Olaf Traung, Chief, Fishing Boat Section of the Fisheries Division of the Food and Agriculture Organization of the United Nations.

Writing in the current issue of *FAO Fisheries Bulletin* on "Fishing and Naval Architecture," Mr. Traung points out that most fishing boat builders are still content to follow age-old rule of thumb methods and are very skeptical about using tank tests of models to predict how fishing boats will perform at sea, although they "will accept the validity of tests for yachts and large vessels." Yet making a test can be compared with taking "the temperature" of a model and the person who has no use for model tests is comparable to a doctor who has no use for a thermometer.

Although naval architects have significantly influenced the development of large, long distance trawlers in Europe and the United States, they have played little part in the design and construction of fishing boats under 100 ft. overall, and these boats form the overwhelming majority of the world's fishing fleets.

In addition to increasing the safety of fishing boats and their seaworthiness, the naval architect can increase their efficiency while decreasing their operating costs.

Mr. Traung provides in diagrammatic form an example of what can be done to effect savings up to 30% in fuel cost—and fuel costs often represent 30% of operating costs. One diagram, based on results obtained from a great number of tank tests, shows that a 65.6 ft. and a 105 ft. boat can both be driven at nine knots by a 200 h.p. main engine, despite the fact that the bigger boat has a beam of 24.2 ft. compared with 19.7 ft. of the smaller boat, and a displacement of 320 tons as compared with 110 tons. The example proves that additional length decreases the required h.p. per ton of hull weight,

and that it is important to make boats as lengthy as practicable.

The same diagram shows that a 400 h.p. engine will drive both a 69 ft. and a 148 ft. boat at 11 knots, although the displacement of the bigger boat is 675 tons compared with 125 tons of the 69 ft. boat. There is a tendency, Mr. Traung declares, to overpower fishing craft and the diagram shows how wasteful it can be. The 69 ft. boat can be driven at 10 knots by a 200 h.p. engine, and doubling the engine h.p. to 400 will only add one knot to the speed.

Another striking example given by Mr. Traung is of a 65.6 ft. boat that needs a 220 h.p. engine to sail at 10 knots, yet, by lengthening the hull by 10 ft., this speed can be obtained with a 160 h.p. engine. By modifying the hull in this way resistance and, therefore, fuel consumption, is decreased by 27%.

Mr. Traung also deals with a number of problems concerned with hull design and construction, effect of weight, angles of entrance, shape of aft body, propellers, engines, gear

(Continued on page 14)

Figures on JAPANESE TUNA

Translated by W. G. VAN CAMPEN

Pacific Oceanic Fishery Investigations, Honolulu, Hawaii

The following tables of statistics on the Japanese tuna fishing industry appeared in a recent issue of *Katsuo to Maguro*, organ of the Japan Tuna Boat Owners' Association. We cannot vouch for their accuracy, but feel that they may be of interest as a general view of the industry. The data have been converted at the rate of 1 kan = 8.27 pounds and 360 yen = \$1.00.

Table 1.—Total number of tuna boats by years, 1940-55

Year	Boats	Total tonnage	Total horsepower	Average tonnage	Average horsepower
1940	708	47,297	94,122	67	133
1947	956	72,864	127,512	76	133
1948	1,146	94,230	170,969	82	149
1949	1,163	96,426	181,707	83	156
1950	1,100	92,158	196,098	84	178
1951	1,187	101,471	221,334	85	186
1952	1,130	103,815	227,638	92	201
1953	1,154	112,945	249,439	98	216
1954	1,263	142,892	293,523	113	232
1955	1,372	176,026	389,837	128	284

Table 2.—Total pole-and-line catch and total longline catch by years, 1940-54. (In pounds)

Year	Pole and line	Longline	Total
1940	203,670,575	81,269,133	284,939,707
1947	146,362,245	63,159,876	209,522,121
1948	138,539,520	109,233,220	246,284,140
1949	129,958,717	140,938,837	270,897,553
1950	165,658,851	159,235,740	339,183,249
1951	243,152,820	153,739,821	421,510,239
1952	249,511,755	187,561,301	451,876,877
1953	216,549,950	272,670,170	507,149,480
1954	251,871,120	318,979,900	601,989,840

Table 3.—Total pole-and-line and longline catch by species, 1952-54. (In 1,000-lb. units)

Species	1952	1953	1954	Average for 3 years
Skipjack	149,439	125,042	182,519	152,333
Black tuna	8,121	16,308	13,794	12,744
Albacore	128,805	111,662	101,390	113,952
Bigeye	64,076	59,693	50,745	58,171
Yellowfin	33,618	63,249	91,491	62,786
Striped marlin	5,078	6,169	16,523	9,254
Broadbill	14,704	15,564	19,129	16,466
Black marlin	15,672	26,671	28,730	23,694
White marlin	1,869	3,176	3,424	2,828
Sailfish	1,116	4,902	2,051	1,687
Sharks	47,346	54,268	52,936	51,514
Others	11,140	5,516	8,113	8,253
Total	480,983	489,220	570,845	513,683

Table 4.—Proportion of various types of enterprises

Type	Concerns	Boats	Tons	Per Cent of fleet
Companies	102	283	55,727.26	20.6
Cooperatives	106	127	14,017.99	9.3
Individuals	804	962	106,281.91	70.1
Total	1,012	1,372	176,027.16	100.0

Table 5.—Average annual catch and income of a longline boat, 1948-54

1948			1950		
Catch lbs.	Cts. per lbs.	Value	Catch lbs.	Cts. per lb.	Value
460,573	\$.07	\$33,838	661,600	\$.11	\$74,498
1952			1954		
859,658	\$.12	\$102,903	785,104	\$.11	\$84,290

Table 6.—Receipts and expenses of a tuna longline boat

	Receipts		Expenditures		
	1948	1950	1952	1954	
Value of catch.....	\$33,838	\$74,498	\$102,903	\$84,290	
Dependables	\$10,223	\$15,749	\$22,931	\$23,061	Fuel, bait, ice
Personnel	9,646	23,664	33,890	23,249	Shares, food, insurance, bonuses
Oil maintenance	6,726	7,291	8,495	6,940	Repairs, insurance
Essel & fishing equipment	3,945	1,194	8,172	6,653	Fishing gear, replacements, vessel gear
Interest, taxes	6,369	6,474	16,261	11,535	
Miscellaneous	4,593	8,575	6,416	6,964	Market commissions, misc. and indirect expenses
Total	41,503	73,699	96,164	78,403	

Table 7.—Exports of tuna products, 1935-55

Year	Frozen		Canned		Raw material conversion	
	Quantity	Index	Quantity	Index	Quantity	Index
	tons	%	cases	%	lbs.	%
1935-39	3,806.5	100	435,168	100	32,915,369	100
1947	312.0	9			624,203	2
1948	2,349.7	61	72,560	17	10,465,222	32
1949	2,957.4	77	211,526	49	19,510,667	59
1950	13,663.0	354	1,545,820	355	113,132,773	344
1951	24,456.9	634	634,432	146	90,957,719	276
1952	30,606.7	793	1,274,879	293	134,226,235	408
1953	45,873.6	1,188	1,788,382	411	180,360,430	548
1954	63,644.9	1,649	1,749,374	402	221,782,379	674
1955	71,827.4	1,861	1,968,053	452	255,397,448	776

British Electronic Mid-Water Trawl

An electronic "eye" which may make mid-water trawls a commercial proposition is being used experimentally on the British trawler, *Ben-volio*. The equipment which can be lowered to the exact depth of a shoal is claimed to be the first of its kind in the world . . . and "in some cases it might double the catch."

A sponsor claims the electronic eye can determine the depth of water under a ship; gauge the depth of any intervening shoals of fish; gauge the depth of the trawl; show what fish, if any, are going into the trawl, and show what fish are being missed in a horizontal direction. "You can easily describe it as a four-way eye," he said. "All depth readings are recorded in the wheelhouse. To operate mid-water trawls successfully trawler skippers must know at what depth shoals are. We believe the eye answers the problem and it is a distinct commercial possibility."

The equipment will be available commercially at the end of this year. Rental cost for a one-year period is understood to be about \$840.



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World Marine Resources

(Continued from page 7)

man comes from the waters of the world," said Dr. Kesteven. "Our present knowledge of resources indicates that we could gather much more food from this source and also use much greater quantities of sea products for commercial purposes."

"Fishery biologists believe that, through international agreement at government level and through other control and conservation activities, the yield of fisheries can be maintained at a determined level but we need full knowledge of all the factors involved before we can attain such results.

"Another practical result from a world survey of marine resources would be the discovery of the nature and extent of stocks in relatively unexploited grounds, of new grounds, and, perhaps, the commercial uses of trash fish or species which are not now considered to be of any value."

The discovery in recent times of new resources of fish and crustacea indicates that the oceans contain much unknown wealth. It is estimated, for example, that only 10% of known plaice grounds are being fished, and it is quite possible that there are also many unknown flat fish grounds. In South African waters a huge pilchard fishing industry has grown up within the past 10 years or so. In the case of crustacea, in the past 50 years new resources have been found and exploited off the east coast of America, the east coast of Australia, the Mexican Gulf and even in the Mediterranean. Again, only this year an FAO master fisherman discovered a new shrimp ground, 140 miles in extent, ranging along the west coast of India.

One of the by-products of FAO's work will be a world atlas of fishing maps. These maps will contain in simple and easy-to-see form all the immediately important information relative to world fisheries. The atlas will be issued next year. Meanwhile, the information which Dr. Kesteven and his assistants are continually extracting is being brought to the attention of governments and fishery organizations.

"It is important to realize," said Dr. Kesteven in conclusion, "that the work we are doing on this survey of

marine resources is only one contribution to the development of world fisheries. There are a great number of other activities involved, such as technical developments in fishing, exploitation of known stocks, and increasing the productivity of the fisheries in underdeveloped countries through mechanization and the introduction of modern catching techniques. There are also a multitude of financial, marketing, social and economic considerations, all of which can, and often do, affect any national or international development of fisheries. Our principal task is basic, that of gaining knowledge and understanding of the marine resources, and when we have that knowledge it will have a practical effect on all policy, plans and work concerned with the development of world fisheries."



Making Fishing Boats Safer

(Continued from page 12)

and so on. He is critical of the attitude of those boat builders and fishermen who do not think existing types of fishing boats can be improved. He points out that in his own country, Sweden, it was said 40 years ago that improvements could not be made, yet a study of the present day Swedish off-shore fishing boats shows they are, on average, five times larger than they were in 1914, and have engines about eight times stronger. Even five years ago some boatbuilders and fishermen said it was impossible to house the crew in the stern, where they now are in modern boats.

It would be easy, Mr. Traung adds, to modify existing Swedish fishing boats to save 30% on fuel consumption, while enabling the boats to maintain their present speed in calm weather and increase it in bad weather.

Mr. Traung is critical of naval architects who provide standard designs and specifications without careful investigation as to their suitability. Such designs may have been successful in one area but that does not make them generally acceptable. Standard designs and advice tendered without specific study of each case may do more harm than good.

Naval architects should, he states, get practical experience and understanding of fishing boats and fishing conditions and operations, by going to sea with the fishermen.

There are only 300 naval architects in the world who are mainly occupied with the design of fishing boats, yet the pace of progress and development in design, construction, safety and efficiency of the boats depends to a large extent on naval architects. The Norwegian Government employs naval architects and the result has been the design of stronger, more seaworthy and more efficient boats. The Japanese Government also employs them and there is evidence that the Russian Government recognizes the importance of the naval architect as a natural member of a fisheries team.

Radiotelephone Frequencies

(Continued from page 11)

available to the Commission, it appears that there is a substantial number of operational requirements for short distance intership telephony, as well as ship-shore communication which can be satisfied by the use of VHF.

Accordingly, the Commission is undertaking a special study of the problem, in respect to stations within its jurisdiction, of transferring with a reasonable period of time all short distance maritime telephony to the VHF band. A related Notice of Proposed Rule Making will be issued and when it is established that a need exists for additional VHF marine frequencies for the non-Government maritime mobile telephone service in the United States.

Shrimp Imports Increase from Mexico

The catch of shrimp in the Gulf of California appears to have set a record. According to FWS figures the imports of shrimp to March 1956, from Mexico and entering the United States through Arizona and California totaled 28.6 million pounds as compared with 12.4 million pounds in the similar period 1954-55.

The 1955-56 Mexican west coast shrimp fishing season has been one of the most successful due to excellent production and a high price level because of poor catches in the Gulf of Mexico.

Two of the projects, one an investigation of Florida commercial sponges (\$12,000) and the other an investigation of the causes and prevention of "black spot" on shrimp (\$19,000), will be conducted by the Marine Laboratory of the University of Miami. The third, an oceanographic investigation of the eastern tropical Pacific Ocean for the benefit of the tuna industry (\$35,000) will be made by the Scripps Institution of Oceanography of La Jolla, California. The purpose of the study is to make it possible to forecast the time and area for good tuna fishing and so provide a scientific basis for increasing the efficiency of the tuna fishery.

--O--

ELECTROFISHING FOR TUNA.--Scientists of the University of Hawaii report "significant progress" in the development of electrofishing for tuna. This research work is being conducted under contract with the FAWS Pacific Oceanic Fishery Investigations.

Experiments by the Physics Department of the University show that the movements of 8-10-pound yellowfin tuna can be controlled in a large bell-grounded tank. The tank used measured 35 feet long, 4 feet deep, and 11 feet wide. By using 16-foot electrode spacing, it was possible to force the tuna to swim to the positive electrode when direct current interrupted at the rate of 20 cycles per second was applied. The source of power was in 6-volt storage batteries that energized a bank of condensers.

--O--

SEN. KUCHEL'S SUGGESTION.--The suggestion of U.S. Senator Thomas H. Kuchel of California that the Federal Government finance a scientific study of ocean conditions and handling problems affecting the commercial fishing industry has been approved by the Interior Department as a means of improving the industry's economic situation.

While noting few results could be expected for three to five years, Assistant Secretary Wesley A. D'Ewart told Kuchel that such projects "would undoubtedly produce information which would increase the efficiency of the fishing fleets" operating in the Pacific Ocean.

D'Ewart noted that the main problem of the tuna fishing industry, which prompted Kuchel's interest, is caused by competition from imports. He agreed that increased research to make possible more efficient operations and to enable the industry to supply a more acceptable product would help.

Senator Kuchel also asked for Navy assistance in collecting information on Pacific ocean conditions. He received a favorable response from the Hydrographic Office. Capt. A. B. Cochran, the Hydrographer, said that the plan of a broad-scale oceanographic meteorological study of the area between Baja California and the coast of Peru is of great interest to the Navy and the work would fit closely into a program now being carried on.

Senator Kuchel was told the Hydrographic Office has conferred with representatives of the American Tunaboat Association and Scripps Institution of Oceanography, and certain measurements will be made during operations planned in the Pacific area.

MID-PACIFIC OCEAN UPWELLING.--A greater than usual upwelling of water in the mid-Pacific and its possible effect upon the tuna fishery of that area are being closely watched by the Fish and Wildlife Service.

The huge upwelling occurred along the Equator, south of Hawaii. The Service is studying the temperature and chemical content of the water, the speed and direction of the ocean currents and the abundance of plankton in a 1,000-mile strip of ocean which spans the Equator southeast of the Islands. Upwelling of water is a common occurrence along the Equator but because of the potentialities of this particular action Service scientists felt it warranted attention.

The upwelling is caused by displacement of surface water by the prevailing easterly winds. This sets up vertical currents which result in the transfer of fertile water from the cool depths to the surface of the sea.

Because of its fertility, the "new" water has the ability to produce and maintain an extraordinary abundance of plankton. Special studies are aimed to find out where the drifting mass of fertile water, with its cargo of developing plant food, will be when it becomes a good tuna feeding ground. FAWS officials believe that if this objective is achieved predicting the location of a good tuna fishing area will be possible.

--O--

NEW SHRIMP AND YELLOWFIN FISHING AREAS.--Discovery of new fishing waters for small, cocktail size shrimp off the State of Washington and the locations of concentrations of yellowfin tuna in the southern part of the Gulf of Mexico were made recently by the exploratory fishing vessels of the Fish and Wildlife Service, reports Acting Secretary of the Interior Clarence A. Davis.

Prior to the development in the Gulf, yellowfin tuna was not known to be available in the Gulf of Mexico during the period from January to May, the time of their disappearance from the northern waters of that area. The discovery may lead to a year-around tuna fishery. The find was made by the "Oregon" in the offshore waters of the Gulf of Campeche.

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JAPANESE FISHING IN MEXICAN WATERS.--A new setup, Japan-Mexico Enterprises, Ltd., has the announced purpose of engaging in fishing in Mexican waters. Plans reportedly call for 70 Japanese drag-net fishermen to go to Mexico initially, with a possible increase in numbers up to 3600 in the future. The organizers of the new company are the President and Manager respectively of the Hakodate (Hokkaido) Drag-Net Fishery Cooperative Association. They reportedly have formed, in association with Mexican fishing interests and with the blessing of the Mexican government, a Japanese-Mexican joint fishery company in Mexico. It is stated that the Mexican government has granted permission for the entry into Mexico of 6 Japanese drag-net fishing boats and 36 skilled Japanese fishermen for a period of six months.

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U.S.-CANADIAN WATERWAYS.--The Canadian and United States governments have decided to examine together the subject of waters which flow across the international boundary between the two countries, according to a State Department announcement on May 23.

Antibiotics Help In Keeping Fish Fresh

Antibiotics may help to keep fish fresh twice or three times as long as present day methods, according to 3 speakers at the International Meeting of Fish Processing Technologists recently held in Rotterdam, Netherlands.

In a paper giving the results of air studies on the use of antibiotics to preserve fish fillets, Peter Koubosky-Lerke and Lionel Farber of the Fisheries Research Laboratory, University of California, stated that chloromycetin, achromycin, terramycin and aureomycin, out of 14 antibiotics tested, markedly retarded the spoilage rate of fish fillets.

One test showed that while untreated fillets were spoiled after four days, fillets treated with 10 p.p.m. chloromycetin, achromycin, terra-

mycin and aureomycin spoiled after 8, 11, 10 and 13 days respectively.

Antibiotics can now be incorporated in ice used for keeping fish fresh, and for retarding the growth of bacteria. Fish can also be sprayed or dipped in solutions of antibiotics and experiments have shown that this treatment considerably extends the storage life of fish.

No country has yet approved of the use of antibiotics to help preserve fish, but the Rotterdam meeting, which was attended by more than a hundred experts from some 25 countries, showed that experiments in the use of antibiotics are being carried out in many parts of the world.

The meeting, which was organized by FAO in line with the agency's general policy of promoting the international exchange of information and cooperation in scientific and technological fields concerned with the world's food production, also heard many papers dealing with chilling and preservation of fish, and quality assessment of fish, including papers on brine cooling of Californian sardines and mackerel, and objective assessment of raw fish quality.

Canada Sets Standards for Fish Sticks

Canadian producers of cooked and uncooked fish sticks must comply with certain mandatory standards put into effect June 7, 1956, in an amendment to the Fish Inspection Regulations. Any fish-sticks imported into Canada must also conform to these mandatory standards, of which these are the two main provisions:

1. "Fish sticks mean uniform, rectangular shaped portions of fish flesh which are coated with breading or batter and breading.

2. "Fish sticks shall weigh not less than one ounce each; (b) cooked fish sticks shall include a minimum of 66% by weight of fish flesh; (c) uncooked fish sticks shall include a minimum of 75% by weight of fish flesh; and (d) fish sticks shall be free from defects and shall be of good merchantable quality.

These are mandatory standards as compared to the voluntary U.S. standards for grades of frozen fried fish sticks developed by the U.S. Fish and Wildlife Service in cooperation with the interested industry representatives.

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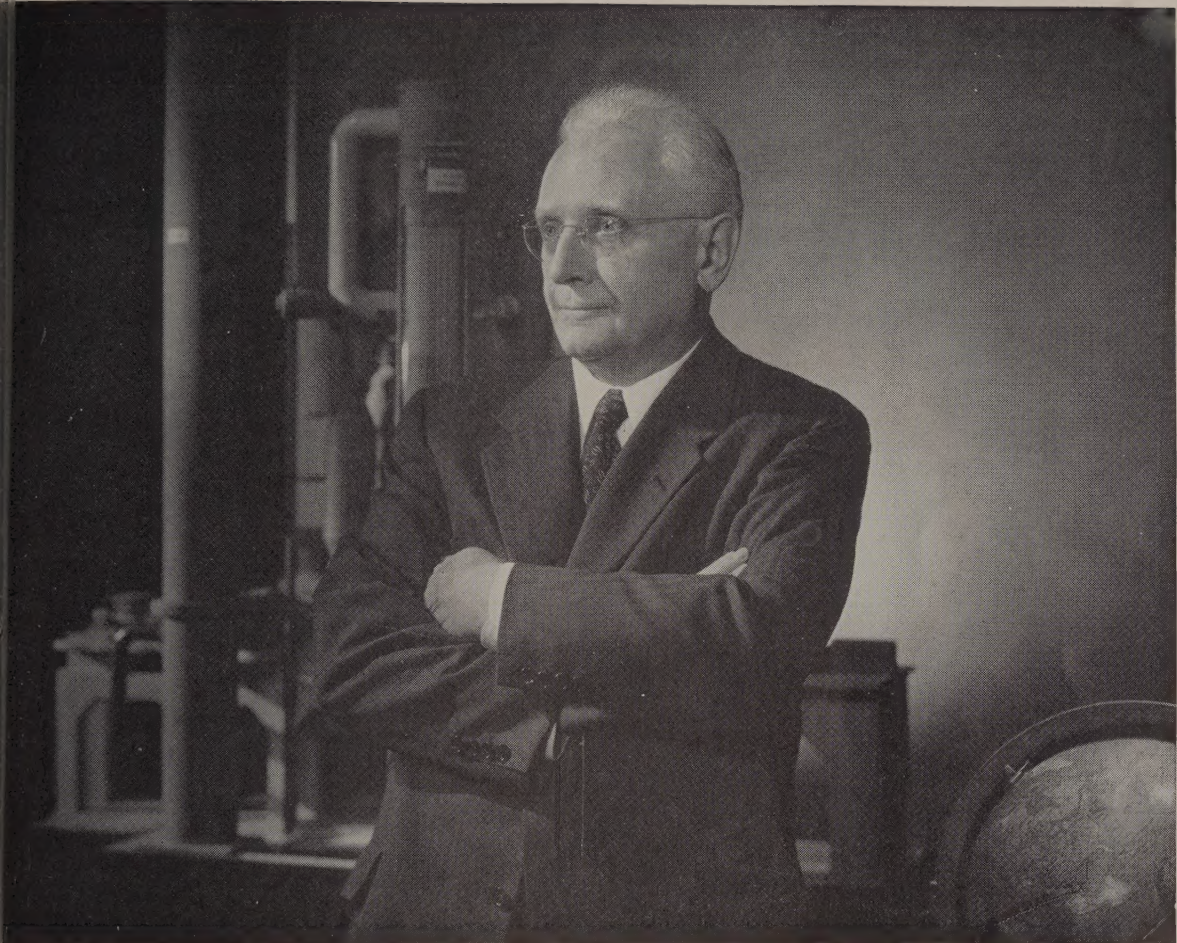


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